(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 29 September 2005 (29.09.2005)

PCT

(10) International Publication Number WO 2005/091222 A2

(51) International Patent Classification⁷: G06T 7/00

(21) International Application Number:

PCT/IB2005/050828

(22) International Filing Date: 7 March 2005 (07.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 04101027.3 12 March 2004 (12.03.2004) EP

- (71) Applicant (for all designated States except US): KONIN-KLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): BOUMA, Henri [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).
- (74) Agents: SCHOUTEN, Marcus, M. et al.; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

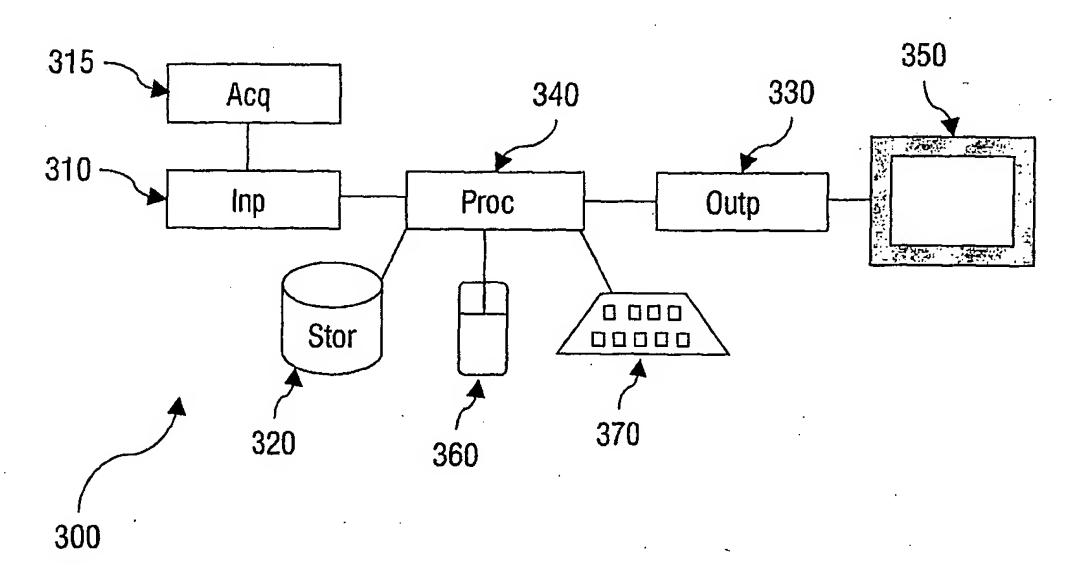
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DETECTION OF EDGES IN AN IMAGE



(57) Abstract: A system locates an edge of an object in a two-or three dimensional image, in particular a medical image. Through an input (310) a set of data elements is received representing values of elements of the image. The data set is stored in a storage (320). A processor (340) determines the edge of an object in the image. It calculates at least a first and/or second-order derivative of the data elements and isophote curvatures for the image identified by κ . It also determines a correction factor α that corrects for dislocation of an edge caused by curvature of an object and/or blurring of the data. The correction factor α depends on the isophote curvature κ . The processor then determines a zero crossing of an operator that depends on the calculated derivative and the isophote curvature. An output (330) of the system provides an indication of a location of an edge in the image.